

patient. Compared to symptomatic therapy, patient with AR treated with allergen immunotherapy obtained approx. 0.75 month (3 years of vaccination followed by 5-year evaluation) and 3.45 month (4-year follow up including 3 years of vaccination) without AB. The QALY for costs has been calculated between 8516 € - 8883 €. **CONCLUSIONS:** In the Slovak Republic, Staloral allergen immunotherapy of allergic rhinitis is effective from the clinical as well as pharmacoeconomic point of view.

PRS15

THE ECONOMIC IMPACT OF COPD IN PATIENTS OF WORKING AGE: RESULTS FROM 'COPD UNCOVERED' THE NETHERLANDS

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OBJECTIVES: Chronic Obstructive Pulmonary Disease (COPD) poses a significant burden on health care budgets. The impact of impaired and lost productivity is less known. The aim of this study was to explore the economic burden of COPD in patients of working age in The Netherlands across three areas: health care utilization, impaired productivity and lost productivity resulting from early retirement due to COPD. **METHODS:** Dutch direct medical costs were derived from a literature review and applied to individual COPD patients. Costs of productivity impairment due to COPD were estimated from the 'COPD uncovered' survey, adopted for The Netherlands. Costs due to lost productivity due to early retirement were based on a cohort of COPD patients of working age followed in a Markov model for 20 years until (early) retirement or death. The costing year was 2011. **RESULTS:** The annual health care costs for patients with COPD aged 45–64 years in The Netherlands were estimated at around €70 million. The annual impaired productivity costs were €120 million. Lost productivity due to early retirement were estimated at around €510 million per year; the majority of €350 million for men and €160 million for women. These lost productivity costs represented 21% of the productivity that may have been generated by COPD patients if they had not retired early. **CONCLUSIONS:** The 'COPD UNCOVERED' model was used to estimate the economic burden of COPD in The Netherlands. Costs due to impaired and lost productivity in COPD patients of working age was considerable and several times higher than the medical cost of COPD. Young working population provide a main target for interventions aimed to improve COPD disease management.

PRS16

SOCIOECONOMIC BURDEN OF COPD IN UKRAINE: 2012-2020 PERSPECTIVE MODELING

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OBJECTIVES: According to the GOLD report (2011), COPD is associated with significant economic burden. For Ukraine as for developing country, the human capital (employed economically active population) is the most important national asset and COPD-related work-place loss may represent a serious threat for Ukrainian economics. **METHODS:** Via the best fit (least square) linear regression forecast we modeled the 2012–2020 dynamics of the key socioeconomic and COPD-related epidemiological indicators for general Ukrainian population and employed economically active population. Modeling was based on the 2005–2011 reports of the Ukrainian National Center of Statistics and data from WHO. Using forecasting results the number of new COPD cases and COPD-related deaths 2012–2020 was calculated. Also we calculated and compared 2012 and 2020 direct and indirect costs. **RESULTS:** According to the forecasting results, number of total Ukrainian population and employed economically active population could amount 45453100 and 20393267, respectively, in 2012 and 43484907 and 20845448, respectively, in 2020. Number of COPD patients in 2012 and 2020 could be 1766748 and 1731332, respectively, in general population and 792680 and 829952, respectively, in employed economically active population. Number of 2012–2020 new COPD cases and COPD related deaths could be 1230750 and 56207, respectively, in general population and 570737 and 25892, respectively, in employed economically active population. We estimated that in 2012 direct COPD costs could be 87,17% greater than indirect COPD costs and could amount to €326367598 vs. €193607579,9, respectively. In 2020 indirect COPD costs could 1,47% exceed the direct costs and could amount €496997427,8 vs. 489796409, respectively. **CONCLUSIONS:** Results of modeling show that socioeconomic burden of COPD will be significant for Ukraine during the 2012–2020 periods. COPD costs will rise with the significant growth of indirect costs, which may be typically for Ukraine as for developing country.

PRS17

AVAILABILITY, AFFORDABILITY AND PRICE OF ASTHMA MEDICINES IN TEHRAN, IRAN

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OBJECTIVES: Asthma, a major chronic respiratory disease, has become a cause of global concern in terms of its increasing prevalence, morbidity and economic impact. Our aim was to examine the availability, pricing and affordability of asthma medicines in Tehran. **METHODS:** The study methodology was designed using the recommendations developed by the World Health Organization and Health Action International on measuring medicine prices, availability, affordability and price components. Data was collected from 5 public sector facilities and 10 private sector retail pharmacies in the pilot study in 22 regions of Tehran. Data on price of innovator brands (IBs) and lowest priced generics (LPGs) found at each facility were gathered and applied for data analysis. **RESULTS:** Generic beclomethasone was

found in 3 public sectors and generic salbutamol was available in 4 public sectors. The availability of IB beclomethasone was poor in all of the regions surveyed. IB beclomethasone was available at 2 out of 5 and 5 out of 10 pharmacies surveyed in public and private sectors, respectively. The availability of generic beclomethasone inhalers was 90%. IB salbutamol inhalers were available in all the surveyed regions. At the time of the survey, the lowest paid unskilled government worker earned 108 400 Iranian Rials (IRR) (US\$ 11.78) per day. **CONCLUSIONS:** The poor availability of inhalers at public facilities affects those patients who depend on these facilities for treatment and medications. In the past decade, some barriers were imposed by the Ministry of Health on registering certain pharmaceuticals. A new approach has focused on reducing these barriers and there is a need for stronger government action to introduce or improve national medicine policy as well as effective pricing policies.

PRS18

SYSTEMATIC REVIEW OF ECONOMIC EVALUATIONS, UTILITY ESTIMATES, RESOURCE UTILISATION, AND COSTS IN CHRONIC IDIOPATHIC URTICARIA

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OBJECTIVES: To systematically identify economic evaluations of treatments recommended for chronic idiopathic urticaria (CIU) and studies reporting health-state utility weights and/or estimates of resource use and costs. **METHODS:** Systematic searches of MEDLINE, MEDLINE-In-Process, EconLit, EMBASE, the Cochrane Library, and conference abstracts were conducted from 1 January 2000 to 20 December 2011. Inclusion criteria considered studies reporting utility weights, resource use, costs, and/or economic evaluations of treatments in CIU patients older than 12 years. **RESULTS:** From 266 retrieved records, 3 studies were included: 1 economic evaluation of levocetirizine and 2 cost studies. The economic evaluation was a pooled analysis of two clinical trials comparing levocetirizine with placebo and incorporating productivity losses defined as absenteeism and/or presenteeism. One cost study reported total annual per-patient direct costs of \$1,762; the other study reported a cost range between \$1,290 and \$2,419, depending on disease severity. Cost components included prescriptions, visits, hospitalisations, and laboratory costs. Annual per-patient indirect costs, defined as disease-related loss of earnings, were between \$213 and \$484, depending on severity. Although no utility studies in CIU were found, one study demonstrated that CIU severely impairs health-related quality of life at the same level as skin conditions, such as psoriasis and atopic dermatitis, on certain dimensions. **CONCLUSIONS:** This review identified limited evidence on costs, only one economic evaluation, and no utility data for CIU. Lacking comparative data, it is impossible to conclude what the most cost-effective treatment in CIU might be. Due to discrepancies between the cost studies, it is difficult to conclude which cost component contributed the most; however, one study reported that productivity loss was a major component. This review highlighted the substantial cost burden and a humanistic burden, comparable to other skin disorders, of CIU. Further research in this area is needed.

PRS19

COST-BENEFIT ANALYSIS OF TIOTROPIUM AND SALMETEROL TREATMENT COMPARE TO USUAL PRACTICE ON SAMPLE OF EMPLOYED ECONOMICALLY ACTIVE COPD PATIENTS IN UKRAINE

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OBJECTIVES: According to the GOLD report (2011) COPD is associated with significant economic burden. COPD exacerbations account for the greatest proportion of the total COPD costs. Frequency and severity of COPD exacerbation could be reduced by the appropriate medication that could be reimbursed by Ukrainian Government. **METHODS:** To determine the net benefit ratio we assessed total COPD costs and the COPD exacerbation-related costs reduction as benefit (effectiveness) for tiotropium (18 mcg daily) and salmeterol (50 mcg two times a day) compared to usual COPD treatment practice of GPs. Direct costs included medication costs, outpatient and inpatient costs. Indirect costs included productivity loss and temporary disability related payments. Calculations were performed per 1000 employed economically active COPD patients. The data about the outpatient visits and hospitalizations was received from results of Ukrainian retrospective study (for usual practice regimen) and from the POET study results (for tiotropium and salmeterol). Prices for medical services were received from appropriate survey (2011) and were counted with May 2011–May 2012 inflation index and salary growth rates. The minimal market medication prices (on 15 June 2012) were included in calculations. Sensitivity analysis was conducted with medication price decrease. **RESULTS:** Results show that total COPD costs per 1000 employed economically active COPD patients in 2012 could amount €498052,34, €441697,07 and €508983,73 with usual COPD treatment practice of GPs, salmeterol and tiotropium, respectively. Reduction of exacerbation-related COPD costs compared to usual practice could amount €85698,78 for salmeterol and €114380,78 for tiotropium. Cost benefit ratio for salmeterol could be 5,15 and for tiotropium could be 4,45. In case of 27% price drop salmeterol could be more beneficial than tiotropium. **CONCLUSIONS:** According to results of the cost-benefit analysis tiotropium is more beneficial for COPD basis in employed economically active Ukrainian population than salmeterol compared to usual practice. It could be reimbursed by Ukrainian government.

PRS20

COST-BENEFIT ANALYSIS FOR A TREATMENT OF PULMONARY ARTERIAL HYPERTENSION

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